IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
(Attorney Docket № 15625US02)

In the Application of:

Min Chiun Hoo, et al.

Serial No. 10/810,408

Filed: March 26, 2004

For: METHOD AND SYSTEM FOR ANTENNA SELECTION DIVERSITY WITH MINIMUM THRESHOLD

Examiner: Jaison Joseph

Group Art Unit: 2611

Confirmation No. 8918

Electronically filed on 02-DEC-2009

PRE-APPEAL BRIEF REQUEST FOR REVIEW

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

The Applicant requests review of the final rejection in the above-identified application, stated in the final Office Action mailed on September 2, 2009 ("Final Office Action") with a period of reply through December 2, 2009. The Applicant also requests review of the arguments stated on pages 2-5 of the Advisory Office Action mailed on November 24, 2009 ("Advisory Office Action"). No amendments are being filed with this request.

This request is being filed with a Notice of Appeal. The review is being requested for the reasons stated on the attached sheets.

REMARKS

The present application includes pending claims 1-46, all of which have been rejected. Claims 1, 3, 5-7, 15, 17, 19-23, 28, 31, 32, 34, 36-40, 42 and 44-46 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,456,675 ("Wagner"). Claims 2, 4, 16, 18, 33, 35, 39, 41 and 43 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wagner in view of U.S. Patent 7,245,678 ("Tanaka"). Claims 23 and 29 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wagner in view of U.S. Patent App. Serial No. 2005/0018634 ("Mantha"). Claims 8, 10, 12-14 and 25 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wagner in view of U.S. Patent 7,049,933 ("Koerner"). Claims 9 and 11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wagner in view of Tanaka and further in view of Koerner. Claim 26 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Wagner in view of Mantha and further in view of Koerner. Claims 24, 27 and 30 were objected to as being dependent upon a rejected base claim. The Applicant respectfully submits that the claims define patentable subject matter at least for the following reasons.

I. EXAMINER'S RESPONSE TO ARGUMENTS

The arguments stated in pages 2-5 of the Advisory Office Action are repeated from the Final Office Action. Therefore, the Applicant will only address the Examiner's arguments from the Final Office Action. The Examiner states the following at page 2 of the Final Office Action:

> Regarding claim1, applicant argue, "Wagner does not disclose or suggest at least the limitation of "determining a signal quality metric for a plurality of signal paths, wherein one or more of said plurality of signal paths is selected based on stored information related to preceding frames, the stored information received via each of the plurality of signal paths," as recited by the Applicant in independent claim 1." However the Office respectfully disagrees. Wagner clearly teach "selecting the payload signal source based at least upon a previous quality metric corresponding to a previous payload signal source comparing unfavorably with a threshold" (see **column 18, lines 18-21**). Wagner further teach "the control and signal processing unit 208 preferably provides control of the antenna switch 202" (see **column 4, lines 50-51**) and "The control and signal processing unit 208 ... and operational data stored in volatile or nonvolatile digital storage devices or both as known in the art" (see **column 4, lines 63-65**) Wagner further teach "quality metric, Q(T), of the test antenna is updated and stored at step 504" (see **column 7, lines 39-40**). Therefore Wagner clearly teach the limitations of "one or more of said plurality of signal paths is selected based on stored information related to preceding frames". (emphasis added)

The Applicant respectfully disagrees. Wagner, at col. 18, lines 18-21, discloses that the step of selecting a payload signal source (in claim 18) includes selecting the payload signal source based upon a previous quality metric corresponding to a previous payload signal source. Wagner, at best, discloses selecting a signal source based on a single quality metric for a single previous source. There is no disclosure that a signal paths is selected based on **stored** information related to preceding frames, where the stored information is received via **each of the plurality of signal paths**.

Wagner, at col. 4, lines 50-51 and 63-65, simply discloses that the antenna switch 202 can be controlled by the processing unit 208 (e.g., a CPU), which can utilize volatile and/or non-volatile memory.

Wagner, at col. 7, lines 39-40, describes step 504 from Fig. 5. Initially, the Applicant points out that Wagner's FIG. 5 relates to a method of selecting an antenna using packetized data transmissions, in which the test data packets are transmitted before each payload packet. The portion cited by the Examiner (col. 7, lines 39-40) simply states that the quality metric Q(T) (based on the test packet) is updated and stored. In fact, the quality metrics are being continuously updated (i.e., the most recent metric is stored for each test packet and only the most recent metric is used in the antenna determination). Ultimately, at step 512, a new payload antenna P is selected based on the **current** quality metric values. In this regard, the fact remains that **Wagner's antenna selection (as disclosed in Fig. 5 and elsewhere) is based only on a current quality metric value for the specific antenna, and it is not based on stored information related to preceding frames, where the stored information is received via each of the plurality of signal paths**.

II. Rejection of Independent Claims 1, 15, 31 and 39

With regard to the rejection of independent claim 1 under Wagner, the Applicant submits that Wagner does not disclose or suggest at least the limitation of "determining a signal quality metric for a plurality of signal paths, wherein one or more of said plurality of signal paths is selected based on stored information related to preceding

frames, the stored information received via each of the plurality of signal paths," as recited by the Applicant in independent claim 1.

The Final Office Action states the following:

> Regarding claim 1, Wagner et al. teach a method for processing signals in a communication system (see abstract), the method comprising: *determining a signal quality metric for each of a plurality of signal paths (see abstract lines 1 - 3), wherein one or more of said plurality of signal paths is selected based on stored information for preceding frames, the preceding frames received via each of the plurality of signal paths (see abstract and column 18, lines 3 - 21)*; assigning a threshold signal quality metric for the plurality of signal paths (see abstract and column 18, lines 3 - 21); and discarding a signal path from the plurality of signal paths, if the determined signal quality metric for the signal path does not satisfy the threshold signal quality metric (see abstract and column 18, lines 3 - 21).

See the Final Office Action at pages 4-5 (emphasis added). The Applicant respectfully disagrees. Wagner discloses that the quality of a channel for each of a plurality of receive antennas is determined by **continuously** updating quality metrics based on both test and payload data. *See* Wagner at Abstract. More specifically, Wagner calculates the quality metric for any given signal source by using **measurements of the currently received test and payload data**. *See id.* at col. 2, lines 33-61. This is further illustrated in Wagner's Fig. 4, which is a generalized method for selecting an antenna. Referring to Fig. 4, the quality metrics Q are being **continuously** determined and assessed for the different receiving antennas (see the continuous loop of steps 402-410, and col. 6, lines 15-50). Wagner does not utilize any stored information relating to preceding frames. In fact, as explained above, Wagner makes a continuous determination of the quality metrics using currently received test and payload data, and does not even utilize any information relating to previously received or preceding frames.

Therefore, the Applicant maintains that Wagner does not disclose or suggest at least the limitation of "determining a signal quality metric for a plurality of signal paths, wherein one or more of said plurality of signal paths is selected based on stored information related to preceding frames, the stored information received via each of the plurality of signal paths," as recited by the Applicant in independent claim 1.

Accordingly, independent claim 1 is not anticipated by Wagner and is allowable. Independent claims 15, 31 and 39 are similar in many respects to the method disclosed in independent claim 1. Therefore, the Applicant submits that independent claims 15, 31 and 39 are also allowable over the references cited in the Final Office Action at least for the reasons stated above with regard to claim 1.

The Applicant also maintains all remaining arguments stated in pages 17-21 of the November 2, 2009 response.

III. Conclusion

The Applicant respectfully submits that claims 1-46 of the present application should be in condition for allowance at least for the reasons discussed above and request that the outstanding rejections be reconsidered and withdrawn. The Commissioner is authorized to charge any necessary fees or credit any overpayment to the Deposit Account of McAndrews, Held & Malloy, Ltd., Account No. 13-0017.

Respectfully submitted,

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